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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,031	09/27/2005	Yoshitake Hara	IPE-062	4673
20374 7590 08/05/2008 KUBOVCIK & KUBOVCIK SUITE 1105 1215 SOUTH CLARK STREET ARLINGTON, VA 22202				
EXAMINER				
ARNBERG, MEGAN C				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/551,031

## Applicant(s)

HARA ET AL.

## Examiner

MEGAN ARNBERG

## Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-7, 9, 10, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsumura et al. (JP 2001-294445) when taken with Fang (US 2003/0138731). The newly supplied English translation of the Japanese document is used for the citations below.

Regarding claims 1, 4, 5: Matsumura et al. discloses a paste (page 2 claim 1) comprising an inorganic filler/powder (page 2 claim 1), a resin (page 2 claim 1) and a solvent (page 14 para. 29). The solvent is gamma-butyrolactone (having a lactone and an ester structure), which has a boiling point above 160 °C, specifically 205 °C, as evidenced by Fang (para. 19). The inorganic filler has a mean particle diameter of 2 micrometers and 0.7 micrometers (para. 27). The content of the solvent in example 1 is calculated to be 21% (page 17 table 1), which overlaps the claimed range.

Regarding claim 2: Matsumura et al. teaches the filler can be barium titanate, strontium titanate, calcium zirconate, lead titanate, and lead zirconate (page 2 claim 4).

Regarding claim 3: Matsumura et al. teaches an inorganic filler/powder with a mean particle diameter of 0.5-5 micrometers and another inorganic filler/powder with a

mean particle diameter of 0.1-1 micrometers (page 3 claims 8 and 9). 5 micrometers is 3 times or more than 1 micrometer.

Regarding claims 6 and 7: Matsumura et al. teaches the resin can be made from glycidyl acrylate monomers (page 10 para. 20), which makes an epoxy resin, which is a thermosetting resin.

Regarding claim 9: Matsumura et al. teaches the composition obtained by drying/removing the solvent (page 11 para. 24) and 88.7% of solids in the composition being the inorganic filler, based on calculation of example 1 (page 17 table 1). While Matsumura et al. does not directly teach that the porosity is less than 30% by volume, since all of the components are present in the composition and it is dried in the same manner as the instant invention, it is inherent that the composition would have this property. If it is applicants' position that this would not be the case: (1) evidence would need to be presented to support applicants' position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain a composition with this property.

Regarding claim 10: Matsumura et al. teaches a film thickness of 10 microns (page 14, #2 in para. 31).

Regarding claim 17: Matsumura et al. teaches a capacitor with the composition as an insulating layer (para. 2). It is made by heating and drying (para. 24), which would remove the solvent.

Claims 11-15 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsumura et al. (JP 2001-294445). The newly supplied English translation of the Japanese document is used for the citations below.

Regarding claim 11: Matsumura et al. teaches a composition comprising an inorganic filler/powder (page 3 para. 8), and a resin (para. 6). The inorganic filler/powder has a mean particle diameter of 0.5-5 micrometers and another inorganic filler/powder has a mean particle diameter of 0.1-1 micrometers (claims 8 and 9). 5 micrometers is 3 times or more than 1 micrometer.

Regarding claim 12: Matsumura et al. teaches the filler can be barium titanate, strontium titanate, calcium zirconate, lead titanate, and lead zirconate (page 2 claim 4).

Regarding claim 13: Matsumura et al. teaches the ratio inorganic powder to the whole is 30-50 vol%, which overlaps the claimed range (claim 5).

Regarding claims 14 and 15: Matsumura et al. teaches the resin can be made from glycidyl acrylate monomers (para. 20), which makes an epoxy resin, which is a thermosetting resin.

Regarding claim 19: Matsumura et al. teaches a capacitor with the composition as an insulating layer (para. 2).

### ***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al. (JP 2001-294445) when taken with Fang (US 2003/0138731) as applied to claim 1 above and in further view of Kaneko (JP 2002-226675). The newly supplied English translation of the Japanese document (JP 2001-294445) and the machine translation of JP 2002-226675 is used for the citations below.

Regarding claim 8: Matsumura et al. teaches the basic paste composition as set forth above. Not disclosed is the phosphoric ester skeleton. However, Kaneko teaches a dielectric/insulating paste (title) comprising an epoxy resin and inorganic filler (abstract) and a phosphoric acid ester (para. 13). Matsumura et al. and Kaneko are analogous art because they are both concerned with the same field of endeavor, namely dielectric/insulating epoxy compositions. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the phosphoric acid ester of Kaneko with the composition of Matsumura et al. and would have been motivated to do so for such desirable properties as increased adhesiveness and heat resistance, as evidenced by Kaneko (para. 14).

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al. (JP 2001-294445) as applied to claim 11 above and in further view of Kaneko (JP 2002-226675). The newly supplied English translation of the Japanese document (JP 2001-294445) and the machine translation of JP 2002-226675 are used for the citations below.

Regarding claim 16: Matsumura et al. teaches the basic paste composition as set forth above. Not disclosed is the phosphoric ester skeleton. However, Kaneko teaches a dielectric/insulating paste (title) comprising an epoxy resin and inorganic filler (abstract) and a phosphoric acid ester (para. 13). At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the phosphoric acid ester of Kaneko with the composition of Matsumura et al. and would have been motivated to do so for such desirable properties as increased adhesiveness and heat resistance, as evidenced by Kaneko (para. 14).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al. (JP 2001-294445) as applied to claim 1 above and in view of Ingman et al. (US 2003/0026584). The newly supplied English translation of the Japanese document is used for the citations below.

Regarding claim 18: Matsumura et al. teaches the basic claimed composition as set forth above and removing/drying the solvent (page 11 para. 24). Matsumura et al. does not teach an optical wire. However Ingman et al. teaches an optical wire/optical fiber made with a resin and containing inorganic filler particles (para. 70). Matsumura et al. and Ingman et al. are analogous art because they are both concerned with the same field of endeavor, namely resin composition comprising inorganic filler particles. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the optical wire/fiber of Ingman et al. with the composition of Matsumura et

al. and would have been motivated to do so because, as Matsumura et al. states, the composition is dexterous and insulating (para. 2), which is needed in optical fibers.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumura et al. (JP 2001-294445) as applied to claim 11 above and in view of Ingman et al. (US 2003/0026584). The newly supplied English translation of the Japanese document is used for the citations below.

Regarding claim 20: Matsumura et al. teaches the basic claimed composition as set forth above. Matsumura et al. does not teach an optical wire. However Ingman et al. teaches an optical wire/optical fiber made with a resin and containing inorganic filler particles (para. 70). Matsumura et al. and Ingman et al. are combinable because they are both concerned with the same field of endeavor, namely resin composition comprising inorganic filler particles. At the time of the invention a person having ordinary skill in the art would have found it obvious to combine the optical wire/fiber of Ingman et al. with the composition of Matsumura et al. et al. and would have been motivated to do so because the composition has improved electromagnetic and thermal asperity characteristics, which is needed in optical fibers.

### ***Response to Arguments***

Applicant's arguments with respect to claims 8-10, 16 and 20 have been considered but are moot in view of the new ground(s) of rejection.



Applicant's arguments filed May 22, 2008 have been fully considered but not all arguments are persuasive, because:

A) Applicant's argument that the composition of Matsumura et al. is sintered is not persuasive. It does not matter if Matsumura et al. sinters the composition since the composition as claimed is taught. Before sintering all of the components are present in the correct sizes.

B) Applicant's argument that it is improper to state that the amount of solvent can be optimized since it is a critical element is noted. However, based on the completely translated document instead of the machine translation, it is apparent that Matsumura et al. does teach the amount of solvent to be below 25%, as set forth above.

C) Applicant's arguments regarding the reference Kato are persuasive since the different powders required in the claim are not contained in the same layer. Therefore, since the rejection has been changed based on Applicant's arguments, this is not a final Office Action.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEGAN ARNBERG whose telephone number is (571)270-3292. The examiner can normally be reached on Monday - Friday 7:30-5:00 EST.

Art Unit: 1796

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo, Ph.D./  
Supervisory Patent Examiner, Art Unit 1796  
4-Aug-08

/M. A./  
Examiner, Art Unit 1796